Serial No. 09/872,188
Supplemental Amdt. Dated 9 January 2008
Reply to Telephone Conversation of January 8, 2008

Amendments to the Claims:
This listing of claims will replace all prior versions, and listings, of claims in the application:

Amend claims 1, 4, 6, 20, 21, 22 24, 40, and 42 as follows.

Listing of Claims:

1   1. **(Currently amended)** A work-management method

2   comprising:

3   for a future point in time, determining a probability of availability

4   of each resource of a plurality of resources at said future point in time, to

5   obtain the probabilities of availability of the plurality of the resources,

6   comprising

7   determining an amount of time that ~~the~~ a resource has already

8   spent servicing a task, .

9   determining a first probability of completion of the servicing of

10   the task by the resource by the future point in time without consideration of

11   the amount of time that the resource has already spent servicing the task,

12   determining a second probability that the resource has not

13   completed servicing the task within the amount of time that the resource

14   has already spent servicing the task, and

15   determining <u>from the first and the second probability</u> a third

16   probability of completion of the servicing of the task by the resource by the

17   future point in time considering the amount of time that the resource has

18   already spent servicing the task;

19   combining together the third determined ~~probabilities~~ <u>probability</u>

20   of availability of <u>each resource of</u> the plurality of resources to obtain a

21   number that is a result of the combining; and

22   using the number to schedule new tasks for the resources for

23   the future point in time.

1   **2. (Previously presented)** The method of claim 1 wherein:

2   using the number to schedule new tasks comprises

3   scheduling for the future point in time no more than the number

4 of the new tasks to become available for servicing by the plurality of the

5 resources.

1   **3. (Previously presented)** The method of claim 2 wherein:

2   combining together the determined probabilities comprises

3   summing the probabilities to obtain the number.

1   **4. (Currently amended)** A work-management method

2 comprising:

3   for a future point in time, determining a probability of availability

4 of each resource of a plurality of resources at said future point in time, to

5 obtain the probabilities of availability of the plurality of the resources,

6 comprising

7   determining an amount of time t that each resource of the

8 plurality of resources has been servicing a task by now,

9   for each of the resources, determining a probability $F(t+h)$ of

10 the resource servicing its task to completion within a total amount of time

11 $t+h$, where h is ~~an amount of time,~~ a selected time horizon,

12   for each of the resources, determining a probability $F(t)$ of the

13 resource completing servicing its task by now, and

14   for each of the resources, determining a probability P that the

15 resource will complete servicing its task at the future point in time the

16 amount of time h from now as $\dfrac{F(t+h)-F(t)}{1-F(t)}$;

17   combining together the determined probabilities of availability of

18 the plurality of resources to obtain a number that is a result of the

19 combining; and

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20   using the number to schedule new tasks for the resources for

21   the future point in time.

1   5. **(Previously presented)** The method of claim 4 in a call

2   center wherein:

3   the new tasks comprise calls; and

4   using the number to schedule new tasks comprises

5   in response to P, determining whether or not to initiate or

6   cancel an outbound call.

1   6. **(Currently amended)** A work-management method

2   comprising:

3   determining an amount of time t that a resource has been

4   servicing a task by now;

5   determining a probability $F(t+h)$ of the resource servicing the

6   task to completion within a total amount of time $t+h$, where h is ~~an amount~~

7   ~~of time;~~<u>a selected time horizon</u>;

8   determining a probability $F(t)$ of the resource completing

9   servicing the task by now;

10   determining a probability P that the resource will complete

11 servicing the task within the amount of time h from now as $\dfrac{F(t+h)-F(t)}{1-F(t)}$;

12   and

13   in response to P, scheduling another task for servicing.

1   7. **(Original)** The method of claim 6 wherein:

2   scheduling comprises

3   in response to P, determining whether or not to initiate said

4   another task.

1   8. **(Previously presented)** The method of claim 6 in a call

2   center wherein:

3   the new tasks comprise calls; and

4   scheduling comprises

5   in response to P, determining whether or not to initiate an

6   outbound call.

1   9. **(Original)** The method of claim 6 further comprising:

2   performing the determining steps for a plurality of resources,

3   and

4   determining a number of the resources that will likely have

5   completed servicing their respective tasks within the amount of time h

6   from now as a sum of the probabilities P determined for individual ones of

7   the plurality of resources; wherein

8   scheduling comprises

9   in response to determining the number of the resources,

10   scheduling new tasks for servicing.

1   10. **(Original)** The method of claim 9 wherein:

2   scheduling tasks for servicing comprises scheduling no more

3   than the number of the tasks for servicing.

1   11. **(Original)** The method of claim 6 wherein:

2   determining a probability $F(t+h)$ comprises

3   obtaining historical task-completion statistics, and

4   from the obtained statistics determining the probability $F(t+h)$;

5   and

6   determining a probability $F(t)$ comprises

7   from the obtained statistics determining the probability $F(t)$.

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1   12. **(Original)** The method of claim 11 wherein:

2   obtaining historical task-completion statistics comprises

3   obtaining a mean and a variance of time historically spent by

4 resources on servicing tasks to completion.

1   13. **(Original)** The method of claim 6 wherein:

2   determining a probability $F(t+h)$ comprises

3   obtaining historical task-completion statistics,

4   fitting the task-completion statistics into a lifetime closed-form

5 cumulative-probability distribution to determine parameters of the

6 distribution, and

7   evaluating the distribution with the determined parameters and

8 the total amount of time $t+h$ to obtain $F(t+h)$; and

9   determining a probability $F(t)$ comprises

10   evaluating the distribution with the determined parameters and

11 the amount of time t to obtain $F(t)$.

1   14. **(Original)** The method of claim 13 wherein:

2   obtaining historical task-completion statistics comprises.

3   obtaining a mean and a variance of time historically spent by

4 resources on servicing tasks to completion;

5   the cumulative-probability distribution F comprises a Weibull

6 distribution; and

7   the parameters comprise a dispersion parameter and a

8 parameter of central tendency.

1   15. **(Original)** The method of claim 6 wherein:

2   determining an amount of time t comprises

3   determining the amount of time t that the resource has been

4 servicing a task of one of a plurality of different types of tasks; and

5   determining historical task-completion statistics comprises

6   determining the historical task-completion statistics for the one

7   type of tasks.

1   **16. (Original)** The method of claim 6 wherein:

2   scheduling another task comprises

3   in response to P initiating preparation of a task that may require

4   servicing by an agent at a later time.

1   **17. (Original)** The method of claim 6 wherein:

2   determining a probability $F(t+h)$ comprises

3   obtaining a historical histogram for task completion, and

4   evaluating a cumulative said probability with the obtained

5   histogram for the total amount of time $t+h$ to obtain $F(t+h)$; and

6   determining a probability $F(t)$ comprises

7   evaluating the cumulative probability with the obtained

8   histogram for the amount of time t to obtain $F(t)$.

1   **18. (Original)** The method of claim 6 wherein:

2   scheduling comprises

3   in response to P, canceling preparation of a task that could

4   require servicing by a resource.

1   **19. (Canceled)**

1   **20. (Currently amended)** A computer-readable medium

2   containing instructions which, when executed in a computer, cause the

3   computer to perform the steps of:

4   for a future point in time, determining a probability of availability

5   of each resource of a plurality of resources at said future point in time, to

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6   obtain the probabilities of availability of the plurality of the resources,

7   comprising

8   determining an amount of time that ~~the~~ a resource has already

9   spent servicing a task,

10   determining a first probability of completion of the servicing of

11   the task by the resource by the future point in time without consideration of

12   the amount of time that the resource has already spent servicing the task,

13   determining a second probability that the resource has not

14   completed servicing the task within the amount of time that the resource

15   has already spent servicing the task, and

16   determining <u>from the first and the second probability</u> a third

17   probability of completion of the servicing of the task by the resource by the

18   future point in time considering the amount of time that the resource has

19   already spent servicing the task;

20   combining together the third determined ~~probabilities~~<u>probability</u>

21   of availability of <u>each resource of</u> the plurality of resources to obtain a

22   number that is a result of the combining; and

23   using the number to schedule new tasks for the resources for

24   the future point in time.

1   21. **(Currently amended)** A work-management apparatus

2   comprising:

3   a storage medium for storing instructions, and

4   a processor for executing the instructions, the medium and the

5   processor together comprising:

6   means for determining, for a future point in time, a probability of

7   availability of each resource of a plurality of resources at said future point

8   in time, to obtain the probabilities of availability of the plurality of the

9   resources, including

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10   determining an amount of time that ~~the~~ a resource has already

11   spent servicing a task,

12   determining a first probability of completion of the servicing of

13   the task by the resource by the future point in time without consideration of

14   the amount of time that the resource has already spent servicing the task,

15   determining a second probability that the resource has not

16   completed servicing the task within the amount of time that the resource

17   has already spent servicing the task, and

18   determining <u>from the first and the second probability</u> a third

19   probability of completion of the servicing of the task by the resource by the

20   future point in time considering the amount of time that the resource has

21   already spent servicing the task;

22   means cooperative with the determining means for combining

23   together the third ~~probabilities~~<u>probability</u> of availability of <u>each resource of</u>

24   the plurality of resources to obtain a number that is a result of the

25   combining; and

26   means cooperative with the means for combining the

27   determined probabilities, for scheduling no more than the obtained

28   number of new tasks to be serviced by the plurality of the resources at the

29   future point in time.

1   **22. (Currently amended)** A work-management apparatus

2   comprising:

3   a storage medium for storing instructions, and

4   a processor for executing the instructions, the medium and the

5   processor together comprising:

6   means for determining an amount of time t that a resource has

7   been servicing a task by now;

8   means cooperative with the time-determining means for

9   determining a probability $F(t+h)$ of the resource servicing the task to

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10   completion within a total amount of time $t+h$, where h is ~~an amount of~~

11   ~~time;~~a selected time horizon;

12   means cooperative with the time-determining means for

13   determining a probability $F(t)$ of the resource completing servicing the task

14   by now;

15   means cooperative with both of the probability-determining

16   means for determining a probability P that the resource will complete

17   servicing the task within the amount of time h from now as $\dfrac{F(t+h)-F(t)}{1-F(t)}$;

18   and

19   means cooperative with the P-determining means and

20   responsive to P for scheduling another task for servicing.

1   23. **(Previously presented)** The apparatus of claim 21

2   wherein:

3   the means for combining together the determined probabilities

4   comprise

5   means for summing the probabilities to obtain the number.

1   24. **(Currently amended)** A work-management apparatus

2   comprising:

3   a storage medium for storing instructions, and

4   a processor for executing the instructions, the medium and the

5   processor together comprising:

6   means for determining, for a future point in time, a probability of

7   availability of each resource of a plurality of resources at said future point

8   in time, to obtain the probabilities of availability of the plurality of the

9   resources;

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10   means for determining, for each resource of the plurality of

11   resources, an amount of time *t* that the resource has been servicing a task

12   by now,

13   . means for determining, for each resource of the plurality of

14   resources, a probability $F(t+h)$ of the resource servicing its task to

15   completion within a total amount of time $t+h$, where h is ~~an amount of time,~~

16   <u>a selected time horizon,</u>

17   means for determining, for each resource of the plurality of

18   resources, a probability $F(t)$ of the resource completing servicing its task

19   by now, and

20   means for determining, for each resource of the plurality of

21   resources, a probability P that the resource will complete servicing its task

22   at the future point in time the amount of time h from now as

23   $$\frac{F(t+h) - F(t)}{1 - F(t)};$$

24   means cooperative with the determining means for combining

25   together the probabilities of availability of the plurality of resources to

26   obtain a number that is a result of the combining; and

27   means cooperative with the means for combining the

28   determined probabilities, for scheduling no more than the obtained

29   number of new tasks to be serviced by the plurality of the resources at the

30   future point in time.

1   **25. (Previously presented)** The apparatus of claim 21 in a

2   call center wherein:

3   the new tasks comprise calls; and

4   the means for scheduling comprise

5   means responsive to P, for determining whether or not to

6   initiate or cancel an outbound call.

1   26. **(Previously presented)** The apparatus of claim 22

2   wherein:

3   the means for scheduling comprise

4   means responsive to P, for determining whether or not to

5   initiate said another task.

1   27. **(Previously presented)** The apparatus of claim 22 in a

2   call center wherein:

3   the new tasks comprise calls; and

4   the means for scheduling comprise

5   means responsive to P, for determining whether or not to

6   initiate an outbound call.

1   28. **(Previously presented)** The apparatus of claim 22

2   wherein:

3   the means for determining an amount of time t comprise

4   means for determining the amount of time t for each of a

5   plurality of resources;

6   the means for determining a probability $F(t+h)$ comprise

7   means for determining the probability $F(t+h)$ for each of the

8   plurality of resources;

9   the means for determining a probability $F(t)$ comprise

10   means for determining the probability $F(t)$ for each of the

11   plurality of resources, and

12   means for determining a number of the plurality of resources

13   that will likely have completed servicing their respective tasks within the

14   amount of time h from now as a sum of the probabilities P determined for

15   individual ones of the plurality of resources; and

16   the means for scheduling comprise

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17   means responsive to determining the number of the resources,

18   for scheduling new tasks for servicing.

1   29. **(Previously presented)** The apparatus of claim 28

2   wherein:

3   the means for scheduling comprise

4   means for scheduling no more than the number of the tasks for

5   servicing.

1   30. **(Previously presented)** The apparatus of claim 22

2   wherein:

3   the means for determining a probability $F(t+h)$ comprise

4   means for obtaining historical task-completion statistics, and

5   means for determining the probability $F(t+h)$ from the obtained

6   statistics; and

7   the means for determining a probability $F(t)$ comprise

8   means for determining the probability $F(t)$ from the obtained

9   statistics.

1   31. **(Previously presented)** The apparatus of claim 30

2   wherein:

3   the means for obtaining historical task-completion statistics

4   comprise

5   means for obtaining a mean and a variance of time historically

6   spent by resources on servicing tasks to completion.

1   32. **(Previously presented)** The apparatus of claim 22

2   wherein:

3   the means for determining a probability $F(t+h)$ comprise

4   means for obtaining historical task-completion statistics,

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5   means for fitting the task-completion statistics into a lifetime

6   closed-form cumulative-probability distribution to determine parameters of

7   the distribution, and

8   means for evaluating the distribution with the determined

9   parameters and the total amount of time $t+h$ to obtain $F(t+h)$; and

10   the means for determining a probability $F(t)$ comprise

11   means for evaluating the distribution with the determined

12   parameters and the amount of time t to obtain $F(t)$.

1   33. **(Previously presented)** The apparatus of claim 32

2   wherein:

3   the means for obtaining historical task-completion statistics

4   comprise

5   means for obtaining a mean and a variance of time historically

6   spent by resources on servicing tasks to completion;

7   the cumulative-probability distribution F comprises a Weibull

8   distribution; and

9   the parameters comprise a dispersion parameter and a

10   parameter of central tendency.

1   34. **(Previously presented)** The apparatus of claim 22

2   wherein:

3   the means for determining an amount of time t comprise

4   means for determining the amount of time t that the resource

5   has been servicing a task of one of a plurality of different types of tasks;

6   and

7   the means for determining historical task-completion statistics

8   comprise

9   means for determining the historical task-completion statistics

10   for the one type of tasks.

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1   35. **(Previously presented)** The apparatus of claim 22

2 wherein:

3   the means for scheduling another task comprise

4   means responsive to P for initiating preparation of a task that

5 may require servicing by an agent at a later time.

1   36. **(Previously presented)** The apparatus of claim 22

2 wherein:

3   the means for determining a probability $F(t+h)$ comprise

4   means for obtaining a historical histogram for task completion,

5 and

6   means for evaluating a cumulative said probability with the

7 obtained histogram for the total amount of time $t+h$ to obtain $F(t+h)$; and

8   the means for determining a probability $F(t)$ comprise

9   means for evaluating the cumulative probability with the

10 obtained histogram for the amount of time t to obtain $F(t)$.

1   37. **(Previously presented)** The apparatus of claim 22

2 wherein:

3   the means for scheduling comprise

4   means responsive to P, for canceling preparation of a task that

5 could require servicing by a resource.

1   38. **(Previously presented)** The medium of claim 20 wherein:

2   using the number to schedule new tasks comprises

3   scheduling for the future point in time no more than the number

4 of the new tasks to become available for servicing by the plurality of the

5 resources.

1   **39. (Previously presented)** The medium of claim 38 wherein:

2   combining together the determined probabilities comprises

3   summing the probabilities to obtain the number.

1   **40. (Currently amended)** A computer-readable medium

2 containing instructions which, when executed in a computer, cause the

3 computer to perform the steps of:

4   for a future point in time, determining a probability of availability

5 of each resource of a plurality of resources at said future point in time, to

6 obtain the probabilities of availability of the plurality of the resources,

7 comprising

8   for each resource of the plurality of resources, determining an

9 amount of time t that the resource has been servicing a task by now,

10   for each resource of the plurality of resources, determining a

11 probability $F(t+h)$ of the resource servicing its task to completion within a

12 total amount of time $t+h$, where h is ~~an amount of time,~~ a selected time

13 horizon,

14   for each resource of the plurality of resources, determining a

15 probability $F(t)$ of the resource completing servicing its task by now, and

16   for each resource of the plurality of resources, determining a

17 probability P that the resource will complete servicing its task at the future

18 point in time the amount of time h from now as $\dfrac{F(t+h)-F(t)}{1-F(t)}$;

19   combining together the determined probabilities of availability of

20 the plurality of resources to obtain a number that is a result of the

21 combining; and

22   using the number to schedule new tasks for the resources for

23 the future point in time.

1   41. **(Previously presented)** The method of claim 40 for a call

2   center wherein:

3   the new tasks comprise calls; and

4   using the number to schedule new tasks comprises

5   in response to P, determining whether or not to initiate or

6   cancel an outbound call.

1   42. **(Currently amended)** A computer-readable medium

2   containing instructions which, when executed in a computer, cause the

3   computer to perform the steps of:

4   determining an amount of time t that a resource has been

5   servicing a task by now;

6   determining a probability $F(t+h)$ of the resource servicing the

7   task to completion within a total amount of time $t+h$, where h is ~~an amount~~

8   ~~of time;~~ a selected time horizon;

9   determining a probability $F(t)$ of the resource completing

10   servicing the task by now;

11   determining a probability P that the resource will complete

12   servicing the task within the amount of time h from now as $\dfrac{F(t+h)-F(t)}{1-F(t)}$;

13   and

14   in response to P, scheduling another task for servicing.

1   43. **(Previously presented)** The method of claim 42 wherein:

2   scheduling comprises

3   in response to P, determining whether or not to initiate said

4   another task.

1   44. **(Previously presented)** The medium of claim 42 for a call

2   center wherein:

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3   the new tasks comprise calls; and

4   scheduling comprises

5   in response to P, determining whether or not to initiate an

6   outbound call.

1   45. **(Previously presented)** The medium of claim 42 further

2   comprising instructions which, when executed in the computer, cause the

3   computer to perform the steps of:

4   performing the determining steps for a plurality of resources,

5   and

6   determining a number of the resources that will likely have

7   completed servicing their respective tasks within the amount of time h

8   from now as a sum of the probabilities P determined for individual ones of

9   the plurality of resources; wherein

10   scheduling comprises

11   in response to determining the number of the resources,

12   scheduling new tasks for servicing.

1   46. **(Previously presented)** The medium of claim 45 wherein:

2   scheduling tasks for servicing comprises scheduling no more

3   than the number of the tasks for servicing.

1   47. **(Previously presented)** The medium of claim 42 wherein:

2   determining a probability $F(t+h)$ comprises

3   obtaining historical task-completion statistics, and

4   from the obtained statistics determining the probability $F(t+h)$;

5   and

6   determining a probability $F(t)$ comprises

7   from the obtained statistics determining the probability $F(t)$.

1   48. **(Previously presented)** The medium of claim 47 wherein:

2   obtaining historical task-completion statistics comprises

3   obtaining a mean and a variance of time historically spent by

4   resources on servicing tasks to completion.

1   49. **(Previously presented)** The medium of claim 42 wherein:

2   determining a probability $F(t+h)$ comprises

3   obtaining historical task-completion statistics,

4   fitting the task-completion statistics into a lifetime closed-form

5   cumulative-probability distribution to determine parameters of the

6   distribution, and

7   evaluating the distribution with the determined parameters and

8   the total amount of time $t+h$ to obtain $F(t+h)$; and

9   determining a probability $F(t)$ comprises

10   evaluating the distribution with the determined parameters and

11   the amount of time t to obtain $F(t)$.

1   50. **(Previously presented)** The medium of claim 49 wherein:

2   obtaining historical task-completion statistics comprises

3   obtaining a mean and a variance of time historically spent by

4   resources on servicing tasks to completion;

5   the cumulative-probability distribution F comprises a Weibull

6   distribution; and

7   the parameters comprise a dispersion parameter and a

8   parameter of central tendency.

1   51. **(Previously presented)** The method of claim 42 wherein:

2   determining an amount of time t comprises

3   determining the amount of time t that the resource has been

4   servicing a task of one of a plurality of different types of tasks; and

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5   determining historical task-completion statistics comprises

6   determining the historical task-completion statistics for the one

7   type of tasks.

1   **52. (Previously presented)** The medium of claim 42 wherein:

2   scheduling another task comprises

3   in response to P initiating preparation of a task that may require

4   servicing by an agent at a later time.

1   **53. (Previously presented)** The medium of claim 42 wherein:

2   determining a probability $F(t+h)$ comprises

3   obtaining a historical histogram for task completion, and

4   evaluating a cumulative said probability with the obtained

5   histogram for the total amount of time $t+h$ to obtain $F(t+h)$; and

6   determining a probability $F(t)$ comprises

7   evaluating the cumulative probability with the obtained

8   histogram for the amount of time t to obtain $F(t)$.

1   **54. (Previously presented)** The medium of claim 42 wherein:

2   scheduling comprises

3   in response to P, canceling preparation of a task that could require

4   servicing by a resource.